Orthopedic surgeons have developed various practice management strategies in response to a number of factors including government and insurance regulations, patient satisfaction issues, increased overhead, and declining reimbursements. A survey was conducted at the 2011 Annual Meeting of the American Association of Hip and Knee Surgeons (AAHKS) to elucidate specific practice management strategies among members of AAHKS. Our goal is to use this information not only to educate AAHKS members but also to compare the results of the survey with future surveys to better understand the evolution of practice management issues related to total joint arthroplasty and orthopedic surgery.

Materials and Methods

This survey was conducted by the session moderator (JRL) during the annual meeting; a series of practice management issues were reviewed with the AAHKS meeting audience. A survey of practice patterns related to patient care issues was performed at the Annual Meeting in 2009, and a similar format was used for this survey [1]. Both yes and no and multiple choice questions were included in the survey. Audience members were asked to respond to each question using a handheld audience response system. This electronic device allows each audience participant to select 1 response to each particular question. The audience had 10 seconds to respond to each question. During the course of the survey, the responses were collected in a central data bank, and the results were displayed for the audience after approximately 10 seconds. The answers were provided in percentages that were rounded to the next highest integer. Therefore, a total percentage may have exceeded 100% for some questions [1]. The audience consisted almost entirely of AAHKS members. The session moderator specifically requested that only AAHKS members answer the questions but it is possible that other orthopedic surgeons and guests in the audience responded to this survey. Overall, 956 AAHKS members were registered for the meeting. To become a member of AAHKS, the surgeon must have an active practice in adult reconstructive hip and knee surgery. The audience was queried about a number of different issues related to their practice. Demographic questions were included in the survey.

Results

The mean number of responses to each question was 484. The wording of each question, the number and percentage of responses to each question, and the number of respondents for each question are listed in Appendix (available online at www.arthroplastyjournal.org).

AAHKS Member Demographics

Ninety percent of respondents were between 30 and 60 years old. The members were also polled with respect to the number of years that they have been in practice.
Twenty-four percent had been in practice 0 to 5 years; 16%, between 5 and 10 years; 26%, between 11 and 20 years; 14%, between 21 and 25 years; and 21% had been in practice for more than 25 years. When asked what percentage of their surgical practice was actually related to joint arthroplasty, the responses were quite variable. Fifty-one percent responded that greater than 80% of their surgical practice involved total joint arthroplasty, 24% responded that 61% to 80% involved total joint arthroplasty, and 25% responded that 0% to 60% of their practice involved total joint arthroplasty.

When asked how many hip arthroplasties were performed per year, again, great variability was noted among the respondents. Sixty-five percent performed between 0 to 150 joint arthroplasties per year, 15% performed between 150 and 200 joint arthroplasties per year, 18% performed greater than 200 hip arthroplasties per year, and 2% more than 300 hip arthroplasties per year. There was similar variability noted with respect to total knee arthroplasty (TKA). Ten percent of surgeons performed between 0 and 50 TKAs per year, 16% performed between 51 and 100 TKAs per year, 49% performed between 100 and 200 TKAs per year, and 25% performed greater than 200 TKAs per year.

When asked how many hip arthroscopies were performed per year, approximately 90% of members responded that they performed between 0 and 10 hip arthroscopies per year. Only 5% of members performed greater than 50 hip arthroscopies per year. There was much greater variability with respect to the number of knee arthroscopy procedures performed by AAHKS members. Sixty-seven percent performed less than 50 knee arthroscopies per year, 22% performed between 51 and 100 arthroscopies per year, and 11% performed greater than 100 knee arthroscopies per year.

**AAHKS Member Practice Status**

When asked to define their practice status, 59% of AAHKS members responded that they were in private practice. Other members work for either a multispecialty group (8%), a hospital (19%), or in academic medicine (13%). The compensation of AAHKS members was quite variable, but fee for service was the predominant form of compensation (51%). Eighteen percent of members had compensation determined via relative value units, 9% had a fixed salary, and 19% had a salary with performance incentives. Only 2% of AAHKS members did not accept insurance and relied on direct patient payments for their services. Ninety-eight percent of members accepted Medicare. Sixty-four percent of members responded that 6% to 10% of their income came from ancillary services, 22% responded that 21% to 40% of their income came from ancillary services, and 5% responded that at least 40% of their income came from ancillary services.

When asked about other sources of income, 28% performed independent medical examinations (IMEs) or medical/legal reviews. Sixty-eight percent of members responded that they received no income performing medical/legal reviews, IMEs, or related activities. Thirty percent stated that 10% of their income was generated from such activities, and only 1% responded that between 11% and 20% of their income was generated from such activities.

When asked what percentage of their income did members use to support research, 59% responded that none of their income was used to support research. Thirty-four percent responded that 1% to 5% of their income was used to support research, and 5% of members responded that 6% to 10% of their income was used to support research endeavors.

**Consulting Activity and Royalties**

Thirty-five percent of AAHKS members did consulting for either an orthopedic or pharmaceutical company by participating on advisory boards, product development, or teaching courses. Sixty-five percent of AAHKS members earned no income from consulting in the last year. Fourteen percent earned between $1000 and $5000; 10%, between $5000 and $20 000; 10%, between $20 000 and $100 000, and only 1% earned greater than $100 000. Only 13% of AAHKS members received royalties from an orthopedic manufacturer.

**Emergency Department Call and Electronic Medical Record**

Seventy-nine percent of AAHKS members take emergency department (ED) call. The reimbursement for ED call was quite variable. Forty-six percent do not receive...
any reimbursement for ED call. Twenty-seven percent receive between $100 and $500 per night, and 26% receive between $1000 and $2000 per night. Only 1% of members receive greater than $2000 per night.

A series of questions were asked regarding issues related to the electronic medical record (EMR). Twenty-nine percent of members responded that patients could make an appointment online. When queried about the existence of a paperless office with an EMR, the responses were variable including no EMR (21%), the presence of an EMR but some paper was still used (48%), or a completely paperless office (30%). When asked how the EMR was funded, 47% stated that it was funded by practice revenue alone, 24% had hospital support, and 14% had both support from the hospital and the practice to create an EMR. Eight percent of members were in a multispecialty group that created the EMR, and only 8% received federal funds to support their EMR. Ninety-one percent of members had digital radiographs in their office.

Practice Satisfaction
The final question of the survey was whether AAHKS members are as happy being a surgeon as they were 5 to 10 years ago. Only 66% of members responded yes.

Discussion
The results of this practice management survey represent information that was obtained from hip and knee surgeons at the annual meeting at a single point in time. Valuable information regarding current practice management issues was obtained. Despite current trends, approximately 60% of AAHKS members were still in private practice and received fee for service. It will be interesting to see the response to this question in future polls. Approximately 90% of members perform a limited number of hip arthroscopies (0-10) per year. Hip arthroscopy seems to be a popular procedure at the present time, and these results suggest that it must be performed by surgeons who either focus on arthroscopy (ie, sports medicine physicians) or general orthopedic surgeons. A significant percentage of AAHKS members do earn some type of income from physical therapy, magnetic resonance imaging, or owning a surgery center. Approximately 27% of members receive between 21% and 60% of their income from ancillary services. It is no surprise that most AAHKS members (98%) accepted Medicare.

Conflicts of interest related to orthopedic manufacturers and consulting has been a major issue over the past 5 years [2]. Most AAHKS members were not involved in consulting, and only 13% of AAHKS members received royalties from orthopedic manufacturers. Less than one-third of members performed IMEs or medical legal reviews. It will be interesting to see if consulting activity or involvement in IMEs or medical legal reviews increases with the potential for declining reimbursement for clinical work.

Most AAHKS members did take ED call, but 46% received no reimbursement. The use of EMR was present among practices; 30% of members had a completely paperless office. However, when queried how this was supported, the majority received their support (47%) from practice revenue. Only 8% of AAHKS members have received federal funds in support of the development of EMR in their office. Surprisingly, 21% still did not have an EMR at all.

The strengths of this survey include a large sample size and that the data were collected at a single point in time. The responses were also anonymous. There are a number of weaknesses and limitations associated with this type of survey. First, the questions and the format have not been validated for interresponder variability. Second, it is possible that the respondents did not understand all the queries, and this may have lead to some inaccurate answers. Third, some of the answers may not have been consistent with actual patterns of practice [1].

Despite these weaknesses, the data are quite interesting, and some of the findings were surprising. It is our intention to repeat this poll in 2 years. The data that are presented could be of great value to members of AAHKS who did not attend the meeting, to other surgeons who perform arthroplasty procedures, and to other members of the orthopedic community.

References
Practice Management Strategies Among Members of the AAHKS

1. Do you receive any income from ownership of an orthopaedic specialty hospital or an orthopaedic management agreement with a hospital?

- Yes: 81%
- No: 19%

Total: 473

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2. What percentage of your income is generated from orthopaedic surgery, trauma surgery, or related specialties?

- 0-20%: 68%
- 21-40%: 30%

Total: 504

Slide: 16

3. What percentage of your income is from ancillary services (PT, MR, PCR, etc.)?

- 1-30%: 70%
- 31-60%: 21%
- >60%: 9%

Total: 504

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4. What percent of your income do you use to support research?

- 0%: 59%
- 1-5%: 34%

Total: 492

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5. Do you do PMEs or medical legal reviews?

- Yes: 72%
- No: 28%

Total: 477

Slide: 15

6. Do you employ physician extenders in your individual practice?

- Yes: 35%
- No: 65%

Total: 483

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